

Amendments to the Claims:

1. (Currently Amended) A method of manufacturing a composite sheet consisting essentially of the steps of:

perforating a reinforcement panel;

providing a mold surface onto which a composite sheet may be formed;

applying at least one outer coat of material onto the mold surface;

applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer;

applying the perforated reinforcement panel to the reinforcement layer; and

forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel, wherein the composite sheet consists essentially of the outer coat, the reinforcement layer, and the perforated reinforcement panel.

2. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the forcing step is accomplished by applying a vacuum to the perforated reinforcement panel.

3. (Currently amended) A method of manufacturing a composite sheet consisting essentially of the steps of:

perforating a reinforcement panel;

providing a mold surface onto which a composite sheet may be formed;

applying at least one outer coat of material onto the mold surface;

applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer;

applying the perforated reinforcement panel to the reinforcement layer; and

25174C

forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel, wherein a pervious polymer sheet is applied to the perforated reinforcement panel prior to the forcing step, and wherein the composite sheet consists essentially of the outer coat, the reinforcement layer, the perforated reinforcement panel, and the pervious polymer sheet, which is sufficiently pervious so that a vacuum pressure can be pulled through the polymer sheet.

4. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel.

5. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having an opening diameter in a first side of the reinforcement panel smaller than an opening diameter in a second side of the reinforcement panel, the openings in the first side of the reinforcement panel facing toward the reinforcement layer.

6. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having an opening diameter within the range of from about 1/32 inch to about 1/16 inch in a first side of the reinforcement panel and having an opening diameter within the range of from about 5/32 inch to about 3/16 inch in a second side of the reinforcement panel.

7. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step is accomplished by applying at least one roller against a surface of the reinforcement panel, the at least one roller having a plurality of perforating pins.

8. (Original) The method of manufacturing a composite sheet according to Claim 4 wherein the outer coat of material, when cured, displays substantially no visible sink marks on an exposed surface of the outer coat opposite the tapered holes.

9. (Previously presented) A method of manufacturing a composite sheet comprising the steps of:

perforating a reinforcement panel;

providing a mold surface onto which a composite sheet may be formed;

applying at least one outer coat of material onto the mold surface;

applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer;

applying the perforated reinforcement panel to the reinforcement layer; and

forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel, wherein the perforating step is accomplished by moving the reinforcement panel through three sets of opposed pinch-rollers, one roller of a middle set of the three sets being a perforating mandrel having a plurality of tapered perforating pins.

10. (Previously presented) A method of manufacturing a composite sheet comprising the steps of:

perforating a reinforcement panel;

providing a mold surface onto which a composite sheet may be formed;

applying at least one outer coat of material onto the mold surface;

applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer;

applying the perforated reinforcement panel to the reinforcement layer; and

forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel,

wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having an opening diameter within the range of from about 1/32 inch to about 1/16 inch in a first side of the reinforcement panel and having an opening diameter within the range of from about 5/32 inch to about 3/16 inch in a second side of the reinforcement panel, and

wherein the perforating step is accomplished by moving the reinforcement panel through three sets of opposed pinch-rollers, one roller of a middle set of the three sets being a perforating mandrel having a plurality of perforating pins.

11. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having a density within the range of from about 4 holes per square foot to about 49 holes per square foot of reinforcement panel.

12. (Original) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the size of each hole and the density of the holes in the reinforcement panel being sufficient to evacuate substantially all air trapped between the resin and the reinforcement panel.

13 - 33. (cancelled)

34. (Currently amended) A method of manufacturing a composite sheet consisting essentially of the steps of:

forming perforations in a reinforcement panel;

providing a mold surface onto which a composite sheet may be formed;

applying at least one coat of resin and reinforcement material over the mold to form a reinforcement layer without the use of heat;

applying the perforated reinforcement panel to the reinforcement layer; and

evacuating substantially all air trapped between the combined reinforcement layer and the reinforcement panel through the perforations without the use of heat, thereby bonding the reinforcement layer to the reinforcement panel, wherein the composite consists essentially of the outer coat, the reinforcement layer, and the perforated reinforcement panel.

35. (Original) The method of manufacturing a composite sheet according to Claim 34 wherein the evacuating step is accomplished by applying a vacuum to the perforated reinforcement panel.

36. (Original) The method of manufacturing a composite sheet according to Claim 35 further comprising forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel.

37. (Original) The method of manufacturing a composite sheet according to Claim 36 further comprising the step of applying at least one outer coat of material onto the mold surface prior to the resin.

38. (Currently amended) A method of manufacturing a composite sheet consisting essentially of the steps of:

forming perforations in a reinforcement panel;

providing a mold surface onto which a composite sheet may be formed;

applying at least one coat of resin and reinforcement material over the mold to form a reinforcement layer without the use of heat;

applying the perforated reinforcement panel to the reinforcement layer; and

evacuating substantially all air trapped between the resin and the resin and the reinforcement panel through the perforations without the use of heat, thereby bonding the reinforcement layer to the reinforcement panel, wherein a pervious polymer sheet is applied to the perforated reinforcement panel prior to the evacuating step, and wherein the composite sheet consists essentially of the outer coat, the reinforcement layer, the perforated reinforcement panel, and the pervious polymer sheet, which is sufficiently pervious so that a vacuum pressure can be pulled through the polymer sheet.

39. (Original) The method of manufacturing a composite sheet according to Claim 34 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having an opening diameter in a first side of the reinforcement panel smaller than an opening diameter in a second side of the reinforcement panel, the openings in the first side of the reinforcement panel facing toward the reinforcement layer.

40. (Original) The method of manufacturing a composite sheet according to Claim 34 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having an opening diameter within the range of from about 1/32 inch to about 1/16 inch in a first side of the reinforcement panel and having an opening diameter within the range of from about 5/32 inch to about 3/16 inch in a second side of the reinforcement panel.

41. (Original) The method of manufacturing a composite sheet according to Claim 39 wherein the perforating step is accomplished by applying at

least one roller against a surface of the reinforcement panel, the at least one roller having a plurality of perforating pins.

42. (Previously presented) A method of manufacturing a composite sheet comprising the steps of:

forming perforations in a reinforcement panel;  
providing a mold surface onto which a composite sheet may be formed;

applying at least one coat of resin and reinforcement material over the mold to form a reinforcement layer;

applying the perforated reinforcement panel to the reinforcement layer; and

evacuating substantially all air trapped between the resin and the resin and the reinforcement panel through the perforations, wherein the perforating step is accomplished by moving the reinforcement panel through three sets of opposed pinch-rollers, one roller of a middle set of the three sets being a perforating mandrel having a plurality of perforating pins.

43. (Original) The method of manufacturing a composite sheet according to Claim 34 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel, the tapered holes having a density within the range of from about 4 holes per square foot to about 49 holes per square foot of reinforcement panel.

44. (Original) The method of manufacturing a composite sheet according to Claim 34 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel.

45. (Previously presented) The method of manufacturing a composite sheet according to Claim 9 wherein the forcing step is accomplished by applying a vacuum to the perforated reinforcement panel.

46. (Previously presented) The method of manufacturing a composite sheet according to Claim 9 wherein a polymer sheet is applied to the perforated reinforcement panel prior to the forcing step.

47. (Previously presented) The method of manufacturing a composite sheet according to Claim 10 wherein the forcing step is accomplished by applying a vacuum to the perforated reinforcement panel.

48. (Previously presented) The method of manufacturing a composite sheet according to Claim 10 wherein a polymer sheet is applied to the perforated reinforcement panel prior to the forcing step.

49. (Previously presented) The method of manufacturing a composite sheet according to Claim 42 wherein the forcing step is accomplished by applying a vacuum to the perforated reinforcement panel.

50. (Previously presented) The method of manufacturing a composite sheet according to Claim 42 wherein a polymer sheet is applied to the perforated reinforcement panel prior to the forcing step.

51. (New) A method of manufacturing a composite sheet comprising the steps of:

perforating a reinforcement panel  
providing a mold surface onto which a composite sheet may be formed;  
applying at least one outer coat of material onto the mold surface;

applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer;

applying the perforated reinforcement panel to the reinforcement layer; and

forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel; wherein the forcing step includes:

removably applying a pervious material adjacent to an upper surface of the reinforcement panel;

applying a vacuum to the upper surface of the reinforcement panel; and,

removing the pervious material from adjacent the upper surface of the reinforcement panel upon completion of the evacuating step, whereby the forcing step pulls air from the reinforcement panel and draws the reinforcement panel and the reinforcement layer together, thereby decreasing the amount of air trapped in the composite sheet.

52. (New) The method of manufacturing a composite sheet according to Claim 1 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel.

53. (New) The method of manufacturing a composite sheet according to Claim 51, wherein the perforating step is accomplished by applying at least one roller against a surface of the reinforcement panel, the at least one roller having a plurality of perforating pins.

54. (New) The method of manufacturing a composite sheet according to Claim 51, wherein the outer coat of material, when cured, displays substantially no visible sink marks on an exposed surface of the outer coat opposite the tapered holes.

55. (New) A method of manufacturing a composite sheet comprising the steps of:

- forming perforations in a reinforcement panel;
- providing a mold surface onto which a composite sheet may be formed;
- applying at least one coat of resin and reinforcement material over the mold to form a reinforcement layer;
- applying the perforated reinforcement panel to the reinforcement layer; and
- evacuating substantially all air trapped between the combined reinforcement layer and the reinforcement panel through the perforations; wherein the evacuating step includes:
- removably applying a pervious material adjacent to an upper surface of the reinforcement panel;
- applying a vacuum to the upper surface of the reinforcement panel, and
- removing the pervious material from adjacent the upper surface of the reinforcement panel upon completion of the evacuating step.

56. (New) The method of manufacturing a composite sheet according to Claim 55 further comprising the step of applying at least one outer coat of material onto the mold surface prior to the resin.

57. (Original) The method of manufacturing a composite sheet according to Claim 34 wherein the perforating step includes creating a plurality of tapered holes in the reinforcement panel.

58. (New) The method of claim 51, wherein the outer coat comprises a quick setting gel coat adapted to form a high gloss exterior surface to the composite sheet.

59. (New) The method of claim 58, wherein the gel coat comprising a polymer having a catalyst, whereby the gel coat sets up to a gel in about 20 minutes and cures in about 35 minutes.

60. (New) The method of claim 51, wherein the reinforcement material in the reinforcement layer comprises one or more of chopped fiberglass, nonwoven glass mat, or stitched or knitted mat.

61. (New) The method of claim 51, wherein the reinforcement panel comprises a huaun material.

62. (New) The method of claim 51, wherein the reinforcement panel includes a relatively smooth first surface and a relatively rough second surface, wherein the first smooth surface is applied to the reinforcement layer.

63. (New) The method of claim 1, wherein the reinforcement panel further includes a backing layer.

64. (New) The method of claim 66, wherein the backing layer comprises a fiberglass reinforced plastic compound.

65. (New) The method of claim 1, wherein the resin in the reinforcement layer comprises a polyester/epoxy blend resin.